

REMOVAL ACTION COMPLETION REPORT

for the

BURN AREA SITE

at the

SUPERIOR VALLEY GUNNERY RANGE

**Naval Air Weapons Station
Environmental Project Office (Code 823E00D)
China Lake, CA**

April 1995

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1. INTRODUCTION

This removal action report summarizes the cleanup activities at the site known as the Burn Area at the Superior Valley Gunnery Range, Naval Air Weapons Station (NAWS), China Lake, CA. A draft Engineering Evaluation/Cost Analysis (EE/CA) was submitted to the Department of Toxic Substances Control (DTSC) and the CA RWQCB on 12 Jan 95. Comments on the draft EE/CA were received from Mr. Lance McMahon at the DTSC and Mr. Jay Cass at the CA Regional Water Quality Control Board (RWQCB) on 27 Jan 95 and 25 Jan 95, respectively. These comments were incorporated into a revised EE/CA and resubmitted to the DTSC and CA RWQCB on 17 Feb 95. The FFSRA requires that a removal action cannot begin for at least 45 days after submittal of the EE/CA. Therefore, the removal action did not begin until 28 Feb 95.

The 17 Feb 95 EE/CA outlines site history, site description, site background, site characterization, and removal action objectives. Therefore, this information will not be repeated in this report. However, all information pertaining to the actual implementation of the removal action and its results are included in this report.

2. REMOVAL ACTION

2.1. Project Personnel

The Environmental Project Office (EPO) (Code 823E00D) of NAWS, China Lake, was responsible for all removal action activities at the Superior Valley Burn Area site. Specifically, Ms. Lauren Zellmer, Environmental Engineer, was the EPO's representative for all field activities and is the preparer of this report. Chemical Waste Management, Inc. (ChemWaste), Technical Services Division, was used as the Contractor for all removal action activities. Specifically, Mr. Cecil Bedford, Technician, of ChemWaste was responsible for all Contractor field activities. Unless otherwise stated in the report, ChemWaste is assumed to have conducted the activity under discussion.

2.2. Soil Excavation (Removal)

Prior to soil excavation, the following two actions were completed on 27 Feb 95:

- 1) String lines were used to mark the perimeter of the Burn Area, after consultation with the EPO representative; and
- 2) Locations of visual surface contamination from burn ash residue and solvent/diesel spills were chosen as locations for confirmation sampling after all contaminated soil was excavated. These locations were marked by measuring from stakes placed outside of the excavation area.

Photographs 1 through 3 show visual soil contamination in the Burn Area prior to excavation.

Excavation of the Burn Area began on 28 Feb 95 and continued through 1 Mar 95. A front-end loader was used to scrape the contaminated soil into temporary stockpiles within the Burn Area. A smaller combination backhoe/front-end loader also assisted in soil excavation. The front-end loader periodically shoveled the soil into one of two 20-cubic yard end dump trucks. The end dump trucks then transported the soil to the wastepile. Wastepile construction is discussed in the next section of this report.

Throughout the excavation process water was sprayed on the excavated area, the wastepile (Section 2.3), and on the access roads for dust abatement. A 1500-gallon water truck was used to spray the water. Water was obtained from a groundwater well located approximately three miles south of the project site. Photographs 4 through 9 show dust abatement in progress.

Soil excavation initially focused at areas of soil mounding. Theoretically, as burns were conducted, soil was used to cover the burn residue and debris which caused the mounding. However, as excavation proceeded, surface contamination was not an indicator to locations of subsurface debris and burn residue. In other words, deeper soil contamination was discovered at locations of no soil mounding. The entire Burn Area was excavated to a depth 2 to 6 inches. Depth of excavation in a particular location depended on depth of burn residue and debris. Photographs 10 through 15 show the Burn Area during excavation.

A total of 54 truckloads or 1080 cubic yards of soil were excavated from the Burn Area and placed in the wastepile. Total surface area of the Burn Area is calculated at approximately 1.25 acres. Measurements of the excavated area are shown in Figure 1. A plot plan of the entire project site is shown in Figure 2 and includes an outline of the excavated area. Field notes of the excavated area are included in Appendix A. Photograph 16 shows the Burn Area after excavation.

2.3. Wastepile Construction (Containment)

The wastepile was constructed by the following steps:

- 1) *Location/Siting:* The wastepile location is shown in Figure 2. This location was labeled as "Proposed Wastepile Location #1" in the 17 Feb 95 EE/CA and is north of the vehicle staging area. After the general location of the wastepile was determined, an outline of the wastepile was marked in the soil with the same measurements as specified in the 17 Feb 95 EE/CA. The wastepile was positioned so that the natural drainage of the area allowed drainage from the wastepile. The first step was completed on 27 Feb 95.
- 2) *Drainage Trench and Berm:* Prior to and during drainage trench and berm construction, the area was sprayed with water for dust abatement (Photographs 4 through 9). A 3-foot wide drainage trench was constructed around the outline of the wastepile with a backhoe. The depth of the drainage trench gradually increases from roughly 3 feet at the apex (or northwest end) to roughly 5 feet at the end of the two sides (or southeast end). The soil excavated from the drainage trench was immediately placed adjacent to the trench to form the berms as specified in the 17 Feb 95 EE/CA. Photograph 17 is of the drainage trench and berm construction. The second step was completed on 27 and 28 Feb 95.
- 3) *Visqueen/Soil Placement/Compaction:* Prior to placement of the contaminated soil from the Burn Area in the wastepile, visqueen sheets were placed on the inside of the wastepile. Photographs 18 and 19 show placement of the visqueen sheets. As described in Section 2.2, the contaminated soil from the Burn Area was transported to the wastepile with end dump trucks. Both front end loaders were used periodically to arrange and compact the soil within the previously constructed berms. Again, water was sprayed for dust abatement during soil placement (Photographs 4 through 9). Photographs 20 through 24 show placement of the contaminated soil in the wastepile. The third step was completed on 28 Feb 95 and 1 Mar 95.
- 4) *First Application of Soil Sealant:* After all contaminated soil from the Burn Area was placed within the wastepile, on 2 Mar 95 the soil sealant was sprayed onto the stockpiled soil as well as the drainage trench and berm. The soil sealant was described in the 17 Feb 95 EE/CA. Photographs 25 through 27 show the first application of soil sealant.
- 5) *Liner/Second Application of Soil Sealant:* On 6 Mar 95 the liner was placed on top of the stockpiled soil. The liner is large enough to cover the stockpiled soil, the berm, and the inner side of the drainage trench. Sand bags are used to hold the liner in place. A second application of soil sealant was applied to the drainage trench and the exposed edge

of the liner. Photographs 28 through 33 show placement of the liner. Photographs 34 through 37 show the second application of soil sealant.

2.4. Decontamination

A dry decontamination of all earth moving equipment was completed prior to use at other facilities. The dry decontamination consisted of sweeping with a brush and push brooms all remaining soil from the equipment into the wastepile. Then a scrubbing agent of diatomaceous earth was used on any remaining soil and also disposed into the wastepile. After use any excess soil was knocked from the brush and push brooms into the wastepile. The brush and push brooms was then bagged for similar uses at other facilities.

2.5. Confirmation Sampling

Two sets of confirmation soil samples were collected. Collection procedures, sample locations, etc.. are described below. An evaluation of analytical results is presented in Section 3 of this report:

2.4.1. First Set of Soil Samples

The first set of confirmation samples were collected by ChemWaste on 1 Mar 95. All samples were collected after excavation was complete. Locations for samples identified as S1, S2, S3, and S5 through S12 are within the Burn Area and are shown in Figure 3. Photographs 38 through 44 show collection points for 6 of these samples. Locations for samples identified as S4, S13, 14, and S15 are outside of the Burn Area and are shown in Figure 4.

Samples S1 through S4 were collected as core samples at a depth of 14 ± 1 inch. A hand auger and drop hammer equipped with four-inch brass sleeves were used to collect the core samples. Teflon tape was placed over both ends of the brass sleeves and then plastic caps were placed over the tape. The capped brass sleeves were then placed in ziplock plastic bags. The bags were placed in a cooler with blue ice for laboratory transport. Samples S1 through S4 were analyzed for EPA 8240 and Total Extractable Petroleum Hydrocarbons (TEPH).

Eleven additional samples (S5 through S15) were collected as grab samples with a stainless steel trowel. The soil sample was placed in prewashed plastic containers. The containers were also placed in the cooler for laboratory transport. Samples S5 through S15 were analyzed for total concentrations of CCR metals.

Prior to transportation to the laboratory, all samples containers were labeled. In addition, chain of custodies (Appendix B) were completed. All sampling equipment was decontaminated by washing with water and detergent and then rinsing with water, followed by deionized water. The washwater was disposed into the wastepile.

The cooler was hand delivered on the same day as sample collection to Calscience Environmental Laboratories, Inc. in Stanton, CA.

2.4.2. Second Set of Soil Samples

The second set of confirmation samples were collected by the EPO on 7 Mar 95. All sample locations are described in Appendix C. Samples identified as SV-3 through SV-7 and samples SV-11 through SV-15 were collected within the Burn Area and are shown on Figure 3. Samples SV-1, SV-2, and SV-8 through SV-10 were collected outside of the Burn Area. Locations for samples SV-2, SV-9, SV-10 are shown on Figure 4. More specifically, samples SV-2, SV-9, and SV-10 were collected in undisturbed desert adjacent to the Burn Area, while samples SV-1 and SV-8 were collected as background. Samples SV-3 and SV-4 were field duplicates. Photographs 45 through 50 show collection points for 10 of these samples.

Samples SV-6, SV-8, SV-11, SV-12, and SV-14 were collected with a hand auger at a depth of approximately one foot. The soil was immediately placed in glass containers with Teflon caps provided by the laboratory. The remaining samples SV-1 through SV-5, SV-7, SV-9, SV-10, SV-13 and SV-15 were collected as grab samples from the surface with a stainless steel trowel. Again, the soil was immediately placed in glass containers with Teflon caps provided by the laboratory. All of the containers were placed in a cooler with blue ice for laboratory transport.

Samples SV-8 through SV-15 were analyzed for mercury only using the cold vapor technique (EPA 7471). Samples SV-1 through SV-7 were analyzed for all CCR metals using EPA 6010.

Prior to transportation to the laboratory, all samples containers were labeled. In addition, chain of custodies (Appendix D) were completed. All sampling equipment was decontaminated between samples by washing with water and detergent and then rinsing with deionized water.

The cooler was mailed overnight to Diversified Analytical Services, Inc. in Inglewood, CA.

2.5. Fencing/Signs

Signs that state "Danger Hazardous Waste Accumulation Area Unauthorized Persons Keep Out" are posted on all four sides of the wastepile, see Photographs 51 through 54. In addition, barricades and rope fencing are placed in strategic locations, e.g. between rows of vehicles, to prohibit any person or vehicle from entering the contaminated areas of the vehicle staging area.

3. EVALUATION OF ANALYTICAL RESULTS

3.1. Cleanup Levels

Cleanup levels were specified in the 17 Feb 95 EE/CA and are reproduced below:

- 1) nondetectable concentrations of volatiles, as set by the EPA's SW-846 procedures for the EPA 8240 test;
- 2) concentration of TEPHs less than 100 ppm (acceptable limit from CA LUFT manual for leaking underground fuel tanks); and
- 3) background concentrations for metals. More specifically, the upper tolerance limit (UTLs) calculated from the three background samples collected from the Open Burn/Open Detonation unit closure were used as cleanup levels for metals. This calculation was described in the 17 Feb 95 EE/CA. The UTLs (cleanup levels) are reproduced below:

<u>Metal</u>	<u>Upper Tolerance Limit (ppm)</u>
Antimony	<8.2
Arsenic	4.31
Barium	167.71
Beryllium	1.22
Cadmium	<0.58
Chromium	13.99
Cobalt	10.00
Copper	143.91
Lead	11.61
Mercury	<0.14
Molybdenum	<2.7
Nickel	8.16

Selenium	<1.2
Silver	<1.2
Thallium	<9.5
Vanadium	46.27
Zinc	82.21

3.2. First Set of Soil Samples

Analytical results of the first set of samples (Appendix B) collected at the Burn Area showed nondetectable concentrations of volatiles (EPA 8240) and TEPH.

All results for metals were below cleanup levels, except for two results. These results are discussed below:

- 1) *Mercury*: Concentrations of mercury above the laboratory detection limit of 0.25 ppm are indicated in 8 of the 10 samples. The cleanup level for mercury is <0.14 ppm. Mercury concentration results are reproduced below:

<u>Sample Number</u>	<u>Sample Location</u>	<u>Mercury Concentration (ppm)</u>
S5	Burn Area	ND
S6	Burn Area	0.77
S7	Burn Area	1.22
S8	Burn Area	0.25
S9	Burn Area	0.56
S10	Burn Area	ND
S11	Burn Area	1.00
S12	Adjacent to Burn Area	0.32
S13	Adjacent to Burn Area	0.27
S14	Adjacent to Burn Area	0.32

Concentrations of mercury in the 7 original soil samples collected 21 Nov 94 in the Burn Area prior to excavation are below the detection limit of 2.0 ppm. Therefore, because the detection limit is set at 2.0 ppm, presence of mercury in these original samples is unknown.

Because mercury contamination is unlikely at such elevated concentrations and because of the presence of mercury in samples S12 through S14 (samples collected adjacent to the Burn Area), the additional set of samples were collected on 7 Mar 95 (as described in Section 2.4.2.) to confirm the presence of mercury.

- 2) *Nickel*: Sample S11 also exhibits an elevated concentration of nickel (9.0 ppm). The cleanup level for nickel is 8.16 ppm. Nickel is slightly elevated (3.0 ppm to 84.1 ppm) in the 7 original samples collected 21 Nov 94. However, based on QA/QC data, Calscience Laboratory on 6 Mar 95 quoted a 30% standard deviation for all metal concentrations. Therefore, 9.0 ppm nickel is well within the 30% standard deviation for a cleanup level of 8.16 ppm.

3.3. Second Set of Soil Samples

Three issues from the analytical results of the second set of samples (Appendix D) collected at the Burn Area warrant further discussion:

- 1) *Mercury*: No detectable concentrations of mercury are present in the second set of soil samples. More specifically, concentrations of the 8 samples analyzed only for mercury

are below the detection limit of 0.01 ppm and concentrations of the 7 samples analyzed for all CCR metals are below the detection limit of 2.0 ppm. Therefore, the mercury results from the first set of samples are not confirmed.

- 2) *Lead*: Sample SV-5 indicates a lead concentration of 225 ppm. The cleanup level for lead is 11.61 ppm. Lead concentrations for the six other samples (analyzed for all CCR metals) range from <5.0 ppm to 5.0 ppm. Sample SV-5 was collected at the exact same location as sample S3/S7 from the first set of samples. Lead is not detected in the S7 sample. However, lead is also detected in sample S12 (9.8 ppm) which proves that the Calscience Laboratory is capable of lead detection (even though no lead was detected in sample S7). Lead is not detected in any other samples from the first set.

Perhaps the high concentration of lead in the SV-5 sample is due to a microflake of lead in the small scoop of soil used for the analysis. In addition, in the original set of samples collected 24 Nov 94 prior to excavation, those samples with high lead concentrations are also elevated in copper, zinc, and chromium. If the SV-5 sample result is not an anomaly, concentrations of the other metals (e.g. copper, zinc, chromium) in the SV-5 sample should also be elevated, but are not.

- 3) *Cadmium*: Analytical results of all of the second set of samples indicate cadmium concentrations above the cleanup level of <0.58 ppm. Results range from <1.0 to 1.7 ppm. Even the cadmium concentration in the background sample SV-1 is 1.4 ppm.

In 4 of the 7 original samples collected 24 Nov 94 (also analyzed by the Diversified Laboratory), cadmium concentrations are elevated above the detection limit (3.1 to 32.6 ppm). (The cadmium concentrations in the remaining three samples are <1.0, 1.4, and 1.2 ppm.) This data proves that the Diversified Laboratory is capable of cadmium detection, even though cadmium concentrations in the second set of samples range from <1.0 to 1.7 ppm.

The samples which were collected at the Open Burn/Open Detonation unit and used to calculate the UTLs indicate cadmium concentrations of <0.51, <0.54, and <0.51. Therefore, the cadmium concentrations above the UTLs in the second set of samples is attributed to differences in laboratory technique and equipment.

3.4. Conclusions

Based on the above justifications, soil contamination at the Burn Area was excavated to the extent that met the objectives outlined in the 17 Feb 95 EE/CA. No further soil was excavated after the initial 1080 cubic yards.

4. FUTURE ACTIONS

4.1. Monitoring

As described in the EE/CA, inspections of the wastepile will occur monthly. Figure 5 is a blank copy of the form which is used for the inspections.

4.2. Closure Plan

The first step to a final remedy for the contaminated soil will be submittal of a Feasibility Study (FS). The FS will address the most feasible method to permanently dispose/treat (offsite or onsite) the stockpiled soil. The FS will be submitted to the DTSC, as lead agency, and the CA RWQCB no later than the end of June 1995. In addition, a groundwater/vadose zone monitoring plan will be submitted at this time.

The second step will be submittal of a workplan which will outline implementation of the FS and handling of the contaminated soil. The workplan will be submitted to the DTSC, as lead agency, and the CA RWQCB no later than the end of September 1995.

Implementation of the workplan can begin no earlier than the beginning of fiscal year 1996 (i.e. October 1, 1995) when new funding is available to either the Air Force or the Navy. Final disposal/treatment of the soil will be completed no later than one year from completion of this removal action (i.e. end of March 1995). The contaminated soil may be included as part of another remedial action at Superior Valley.

FIGURES

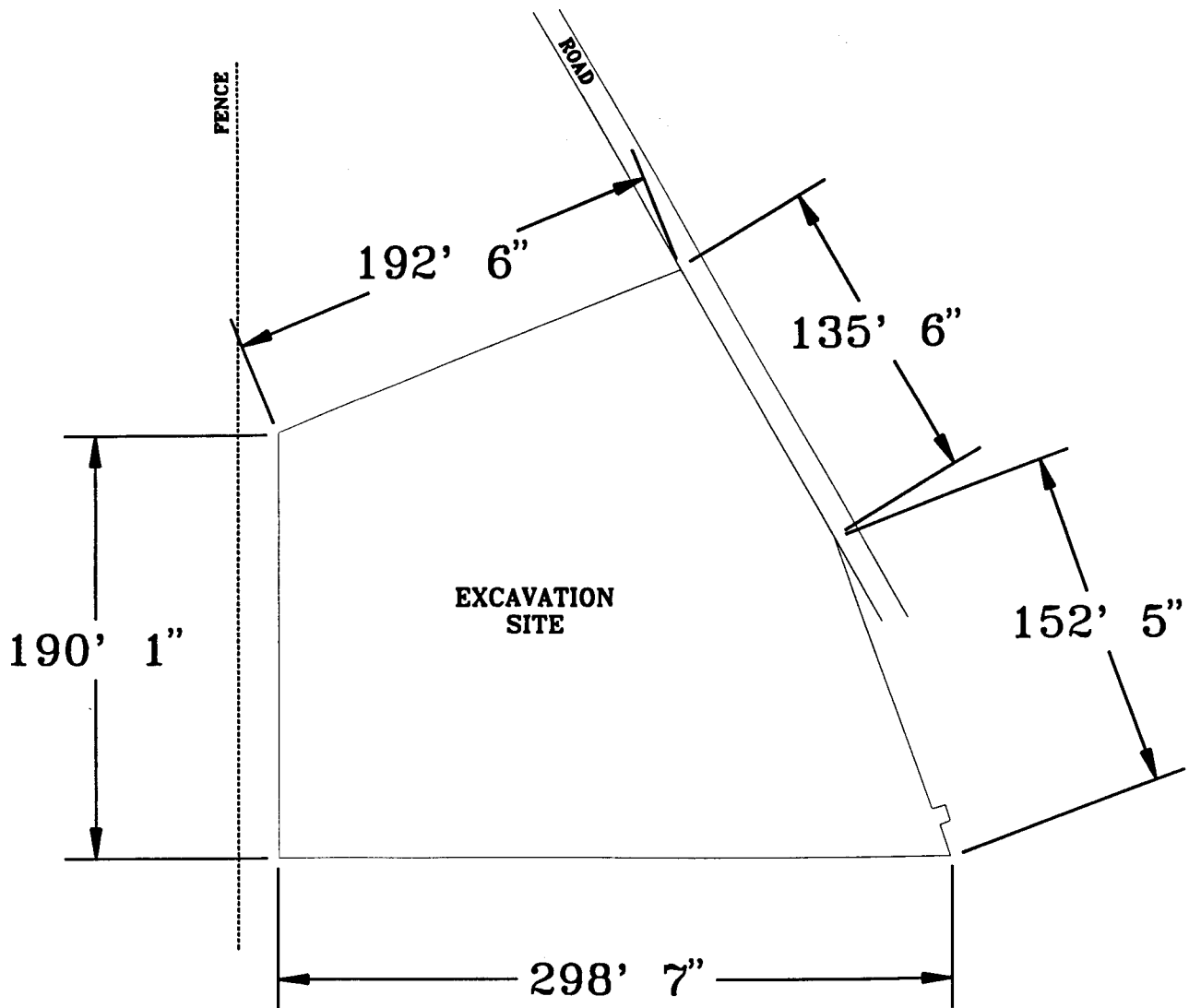
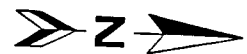


FIGURE 1
Measurements of Excavated Area



1 INCH APPROX 75 FEET



CHINA LAKE NAWS
SUPERIOR VALLEY GUNNERY RANGE BURN AREA
EXCAVATION SITE DIMENSIONS

WORK ORDER# 141024

PROJECT# 0451 3/95

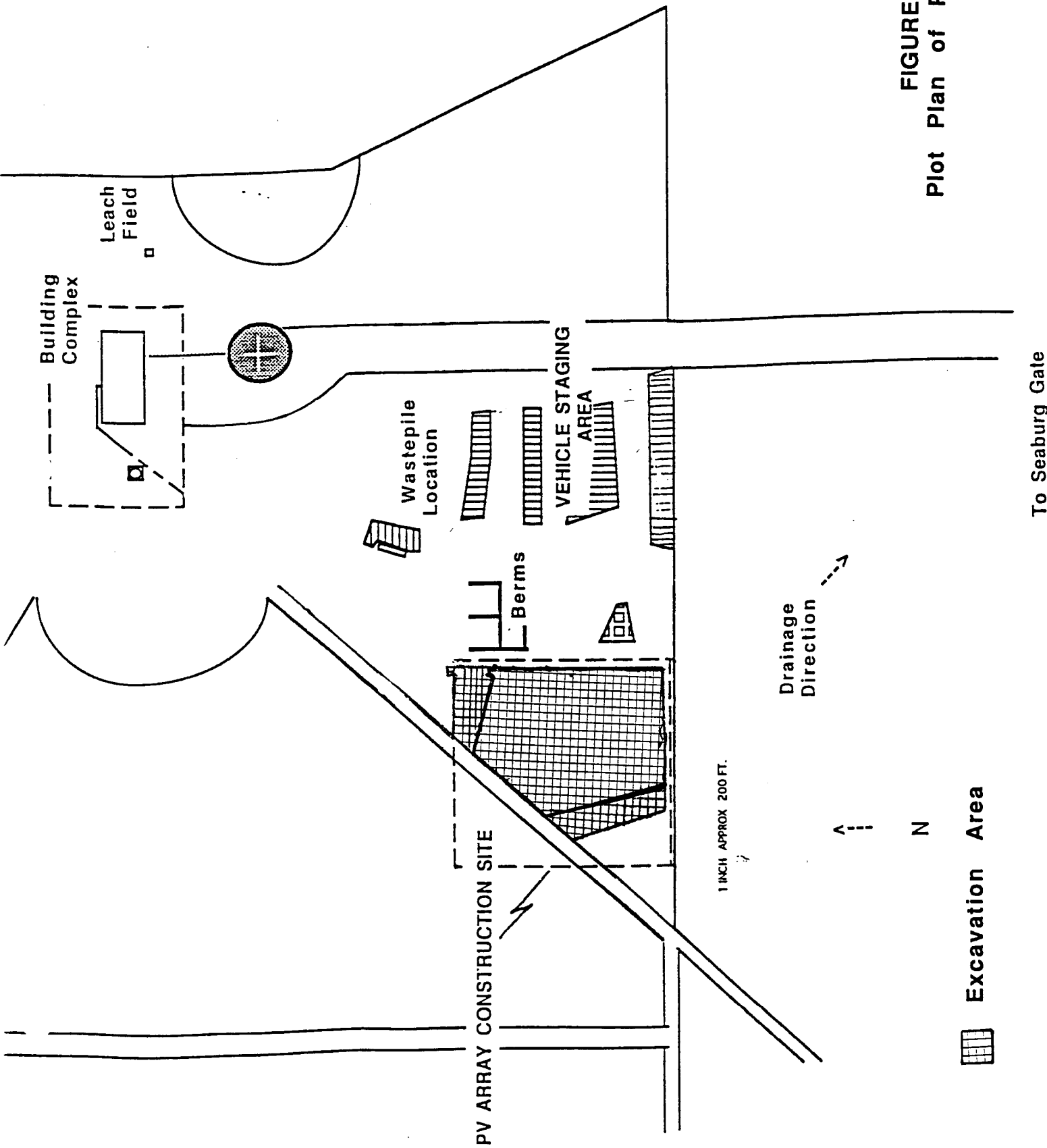


FIGURE 2
Plot Plan of Project Site

1 Mar 95 Samples		7 Mar 95 Samples		
SV-3-All	SV-11-Hg	S1	S7	S12
SV-4-All	SV-12-Hg	S2	S8	
SV-5-All	SV-13-Hg	S3	S9	
SV-6-All	SV-14-Hg	S5	S10	
SV-7-All	SV-15-Hg	S6	S11	

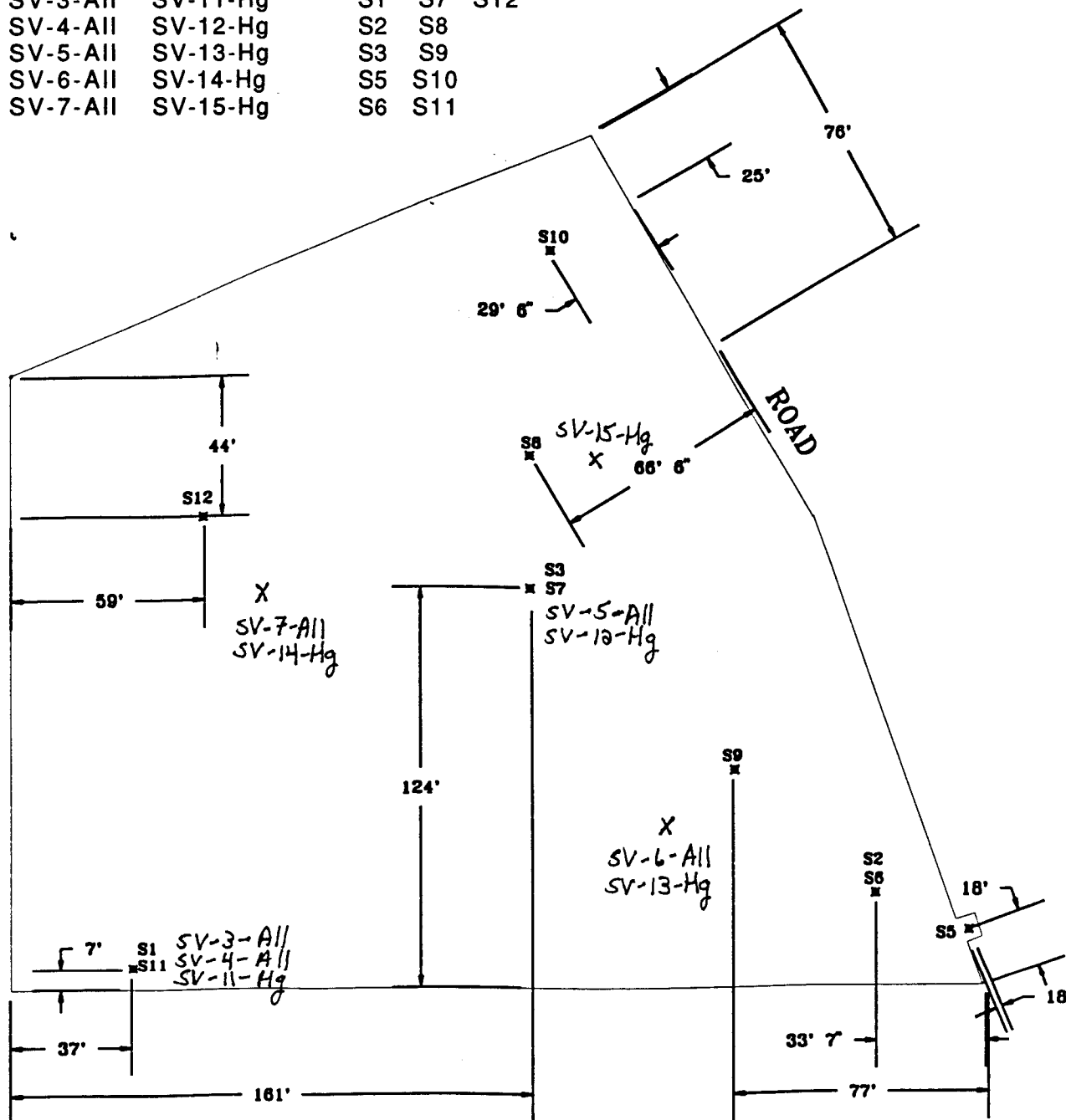
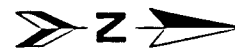


FIGURE 3
Sample Locations Within Burn Area



1 INCH APPROX 50 FEET



**Chemical Waste
Management, Inc.**

**CHINA LAKE NAWS
SUPERIOR VALLEY GUNNERY RANGE BURN AREA
EXCAVATION SITE SAMPLES**

WORK ORDER# 141024

PROJECT# 0451 3/95

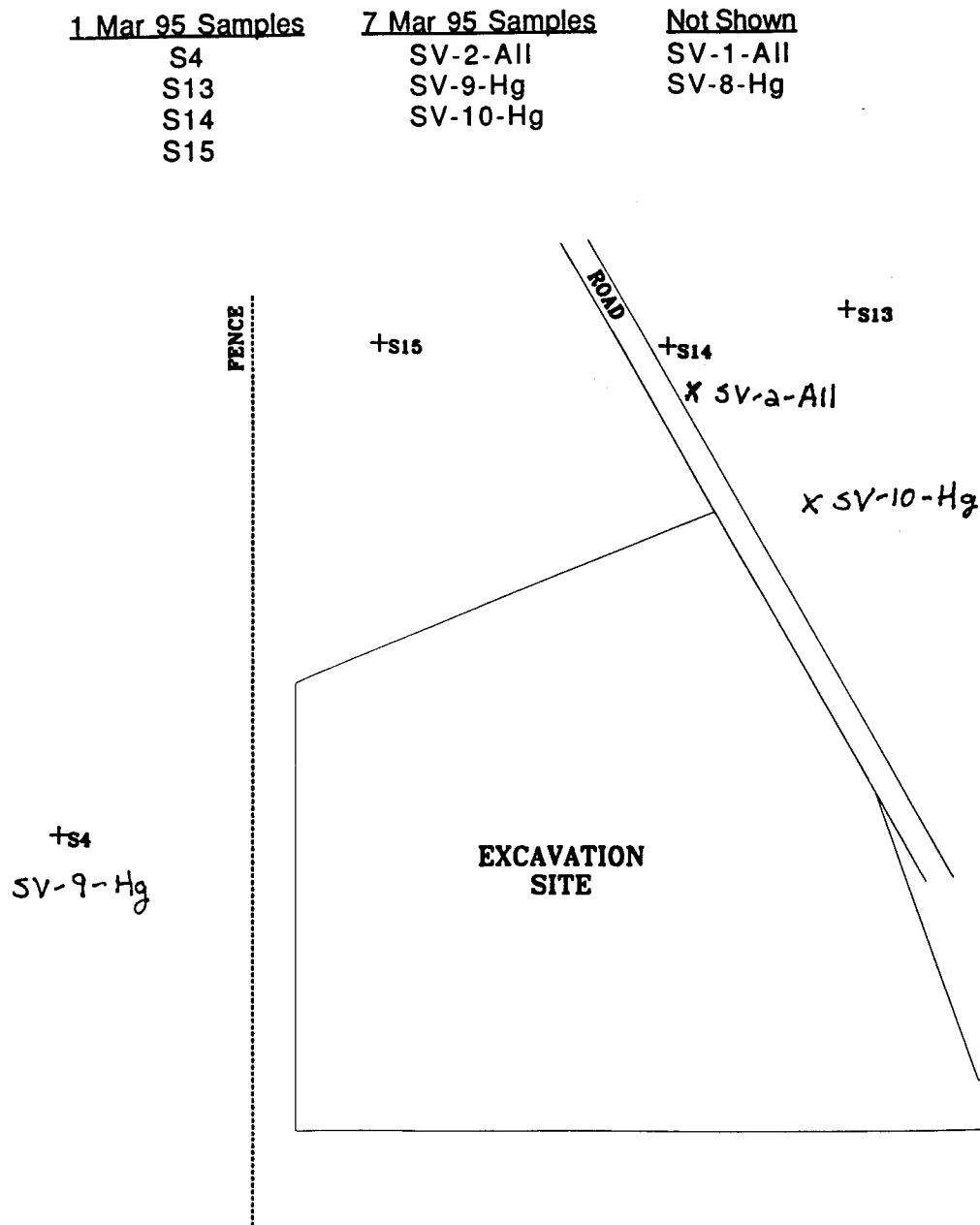


FIGURE 4
Sample Locations Outside of Burn Area



1 INCH APPROX 75 FEET



**Chemical Waste
Management, Inc.**

**CHINA LAKE NAWS
SUPERIOR VALLEY GUNNERY RANGE BURN AREA
OUTSIDE EXCAVATION SITE SAMPLES**

WORK ORDER# 141024

PROJECT# 0451 3/95

SUPERIOR VALLEY WASTEPILE INSPECTION FORMS

DATE
SITE APPEARANCE
CONDITION OF TARP
EROSION OF DITCH OR BERM
CONDITION OF SIGNS AND BARRIERS
EVIDENCE OF PONDING
STORM RELATED DAMAGE
CORRECTIVE ACTION
CONCLUSIONS AND RECOMMENDATIONS

FIGURE 5
Inspection Form

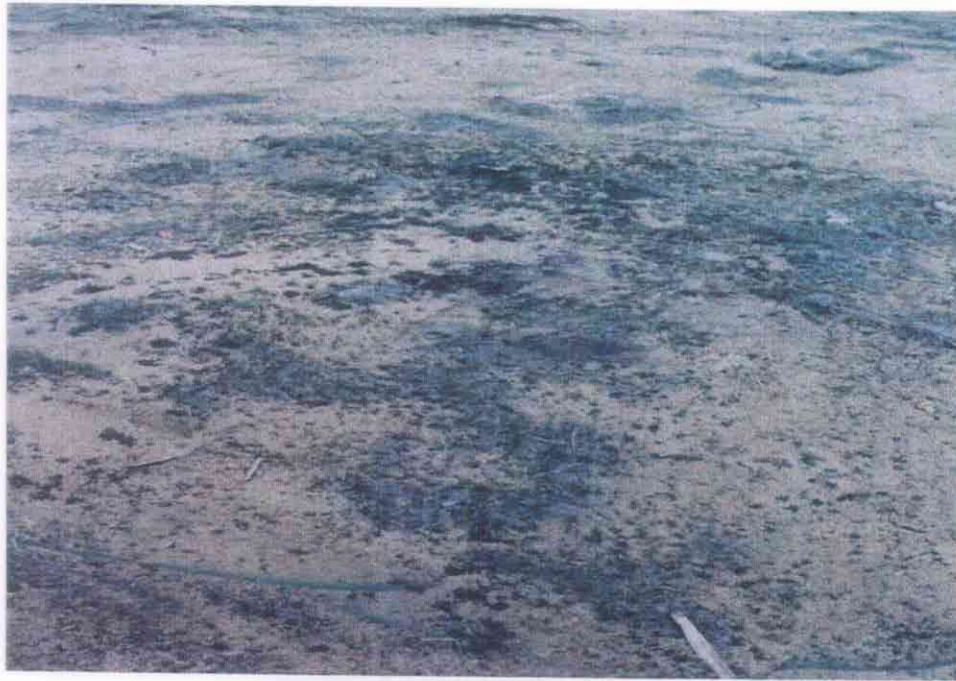
PHOTOGRAPHS



PHOTOGRAPH #1
Visible Soil Contamination Prior to Excavation



PHOTOGRAPH #2
cont. Visible Soil Contamination Prior to Excavation



PHOTOGRAPH #3
cont. Visible Soil Contamination Prior to Excavation



PHOTOGRAPH #4
Dust Abatement



PHOTOGRAPH #5
cont. Dust Abatement



PHOTOGRAPH #6
cont. Dust Abatement



PHOTOGRAPH #7
cont. Dust Abatement



PHOTOGRAPH #8
cont. Dust Abatement



PHOTOGRAPH #9
cont. Dust Abatement



PHOTOGRAPH #10
Burn Area During Excavation



PHOTOGRAPH #11
cont. Burn Area During Excavation



PHOTOGRAPH #12
cont. Burn Area During Excavation



PHOTOGRAPH #13
cont. Burn Area During Excavation



PHOTOGRAPH #14
cont. Burn Area During Excavation



PHOTOGRAPH #15
cont. Burn Area During Excavation

PHOTOGRAPH #16
Burn Area After Excavation





PHOTOGRAPH #17
Drainage Trench and Berm Construction



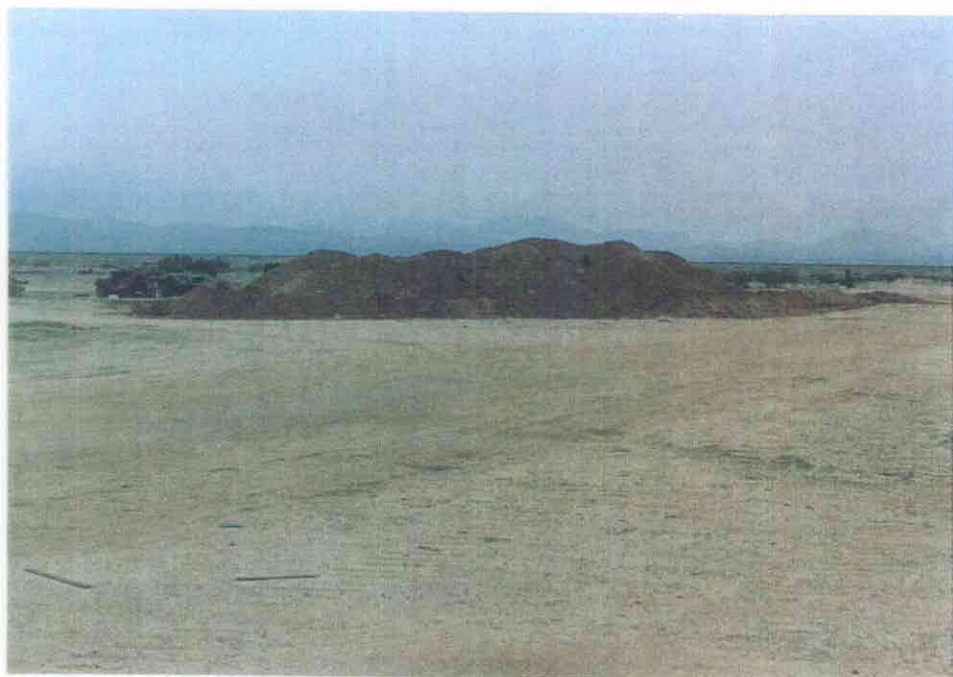
PHOTOGRAPH #18
Placement of Visqueen



PHOTOGRAPH #19
cont. Placement of Visqueen



PHOTOGRAPH #20
Placement of Contaminated Soil in Wastepile



PHOTOGRAPH #21
cont. Placement of Contaminated Soil in Wastepile



PHOTOGRAPH #22

cont. Placement of Contaminated Soil in Wastepile



PHOTOGRAPH #23

cont. Placement of Contaminated Soil in Wastepile



PHOTOGRAPH #24
cont. Placement of Contaminated Soil in Wastepile



PHOTOGRAPH #25
Application of Soil Sealant Before Liner



PHOTOGRAPH #26
cont. Application of Soil Sealant Before Liner



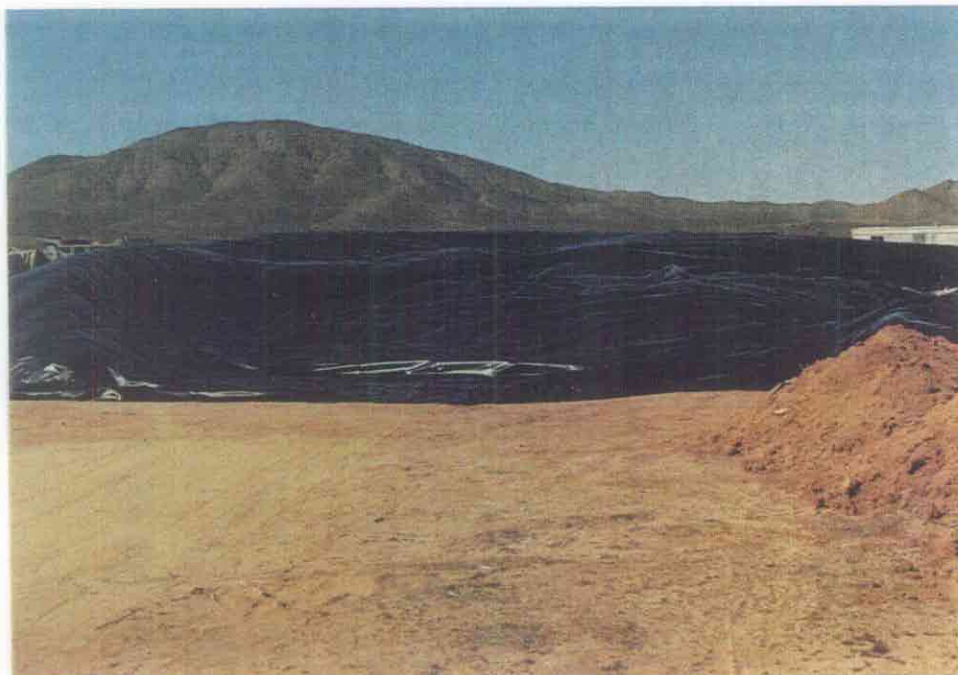
PHOTOGRAPH #27
cont. Application of Soil Sealant Before Liner



PHOTOGRAPH #28
Placement of Liner



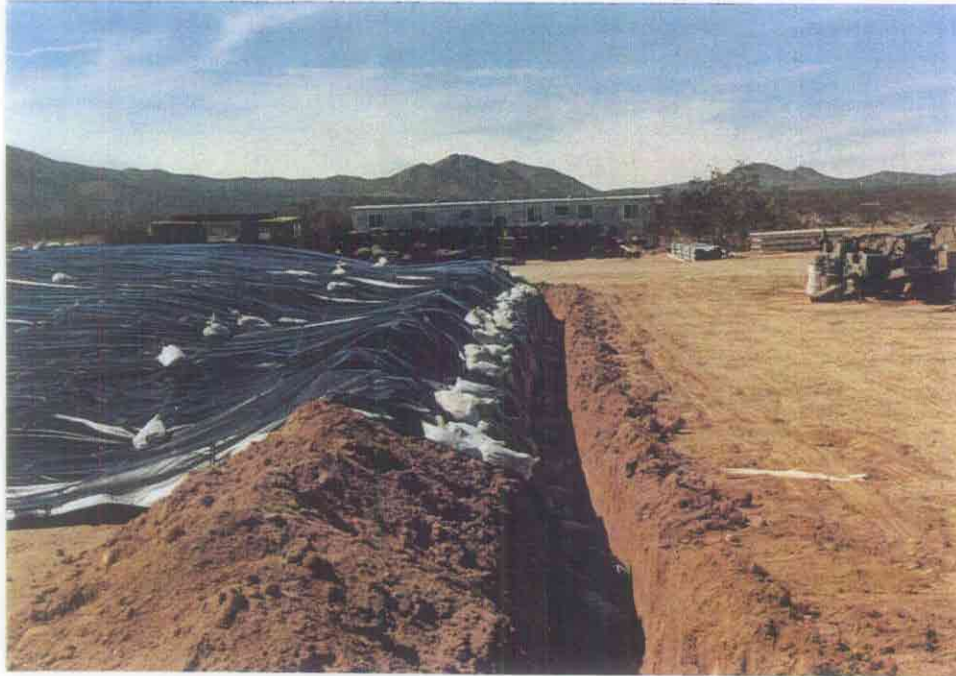
PHOTOGRAPH #29
cont. Placement of Liner



PHOTOGRAPH #30
cont. Placement of Liner



PHOTOGRAPH #31
cont. Placement of Liner



PHOTOGRAPH #32
cont. Placement of Liner



PHOTOGRAPH #33
cont. Placement of Liner



PHOTOGRAPH #34
Application of Soil Sealant After Liner



PHOTOGRAPH #35
cont. Application of Soil Sealant After Liner



PHOTOGRAPH #36
cont. Application of Soil Sealant After Liner



PHOTOGRAPH #37
cont. Application of Soil Sealant After Liner

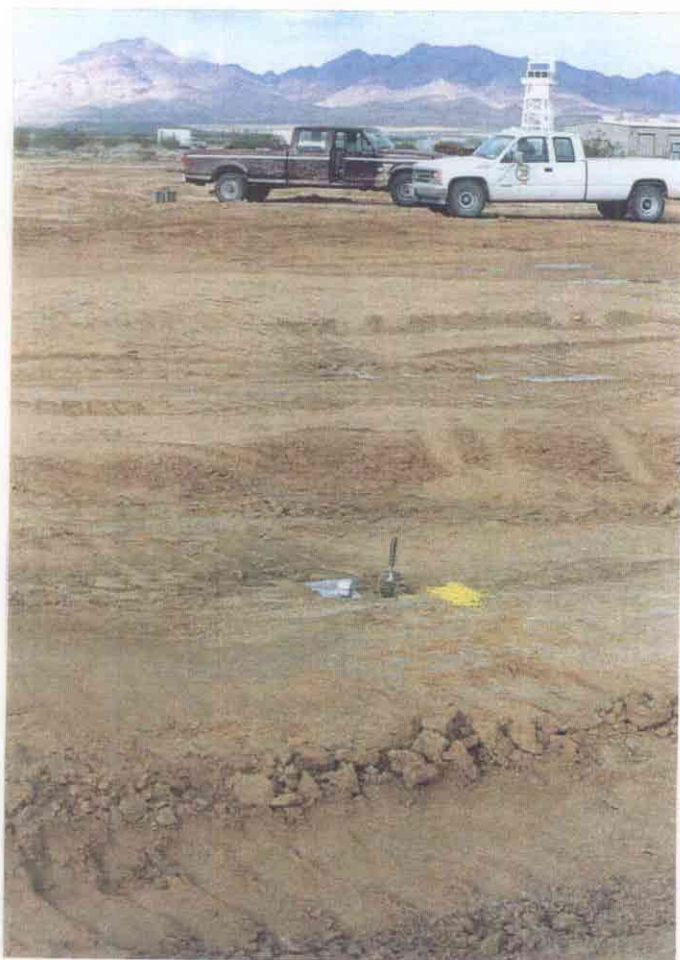
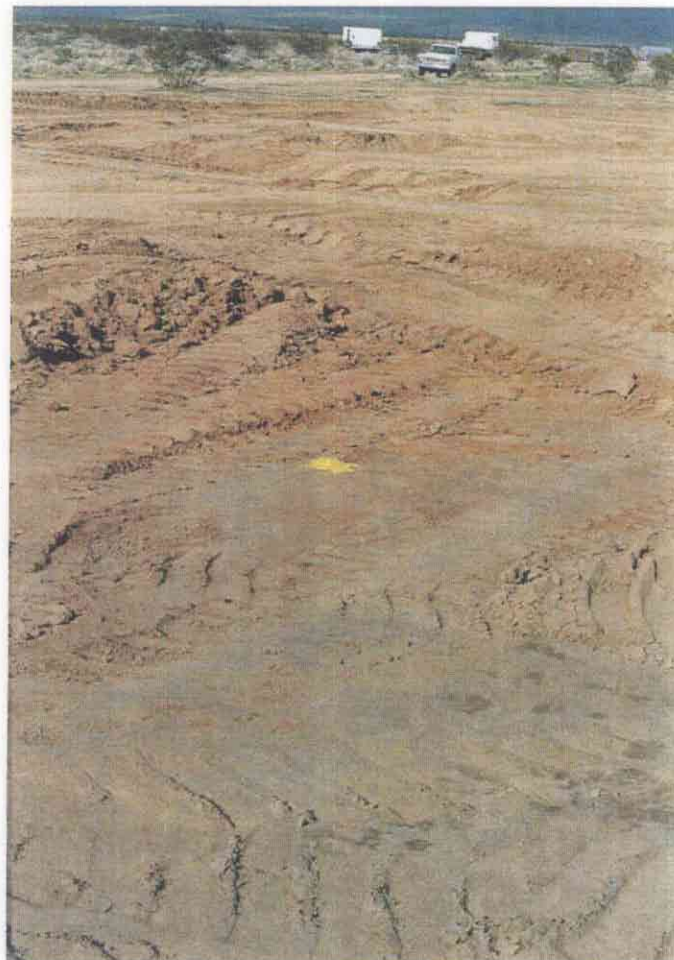


PHOTOGRAPH #38
Collection Points of 1 Mar 95 Samples



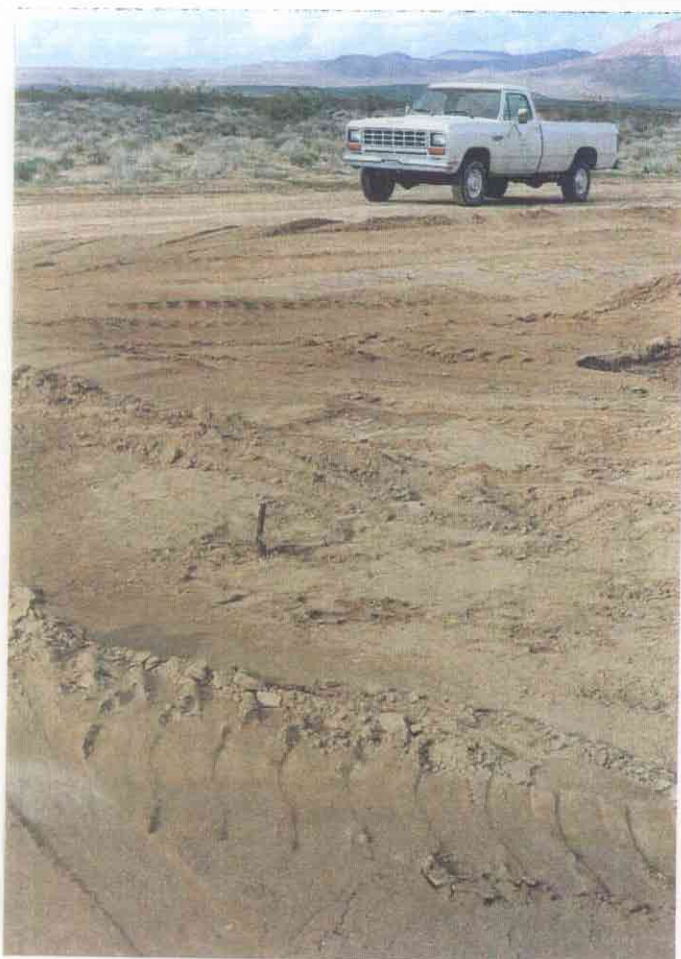
PHOTOGRAPH #39
cont. Collection Points of 1 Mar 95 Samples

PHOTOGRAPH #40
cont. Collection Points
of 1 Mar 95 Samples



PHOTOGRAPH #41
cont. Collection Points
of 1 Mar 95 Samples

PHOTOGRAPH #42
cont. Collection Points
of 1 Mar 95 Samples



PHOTOGRAPH #43
cont. Collection Points
of 1 Mar 95 Samples



PHOTOGRAPH #44
cont. Collection Points of 1 Mar 95 Samples



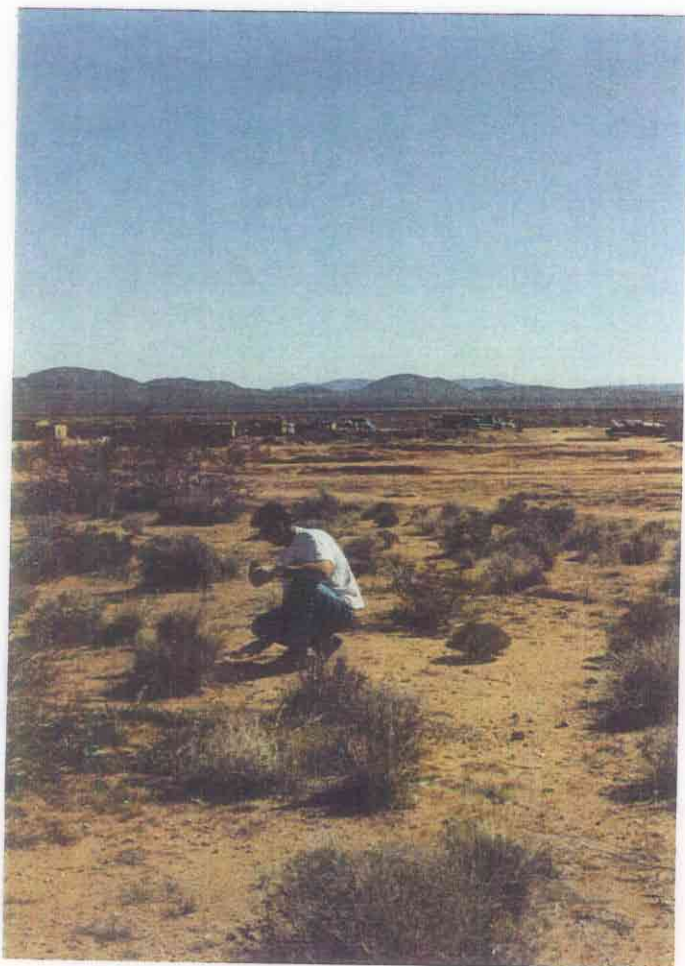
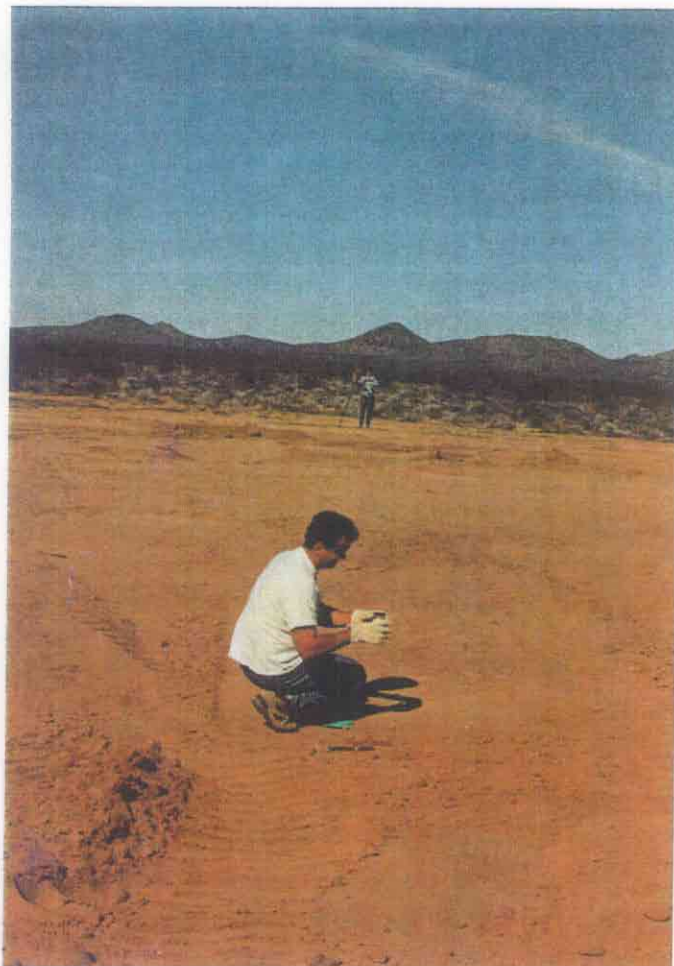
PHOTOGRAPH #45
Collection Points of 7 Mar 95 Samples
(SV-3, SV-4, SV-11)

PHOTOGRAPH #46
cont. Collection Points
of 7 Mar 95 Samples
(SV-6, SV-13)

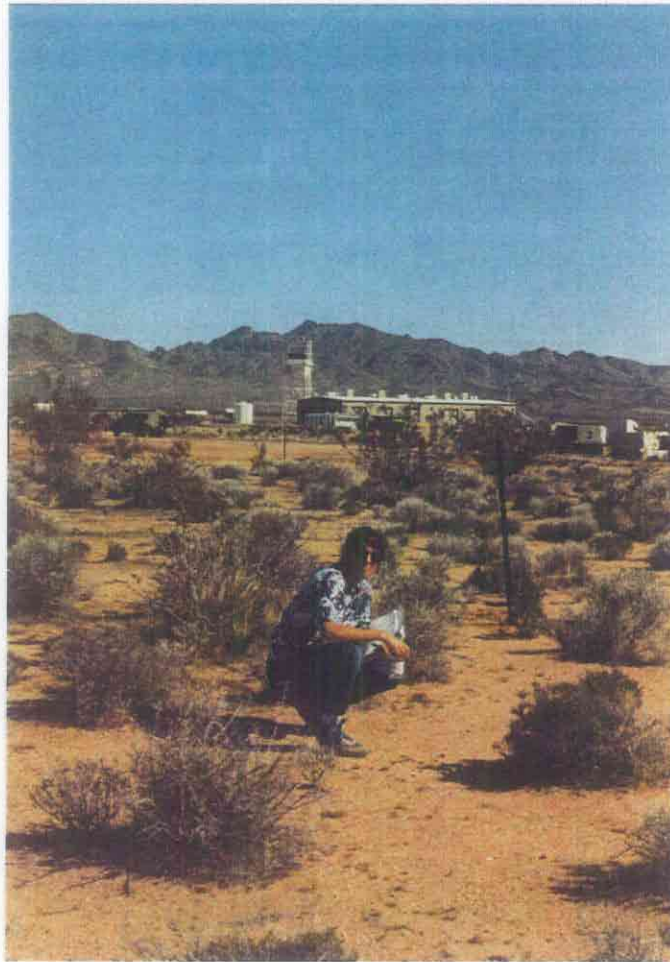


PHOTOGRAPH #47
cont. Collection Points
of 7 Mar 95 Samples
(SV-7, SV-14)

PHOTOGRAPH #48
cont. Collection Points
of 7 Mar 95 Samples
(SV-15)



PHOTOGRAPH #49
cont. Collection Points
of 7 Mar 95 Samples
(SV-2)



PHOTOGRAPH #50
cont. Collection Points of 7 Mar 95 Samples
(SV-9)



PHOTOGRAPH #51
Signs Around Wastepile



PHOTOGRAPH #52
cont. Signs Around Wastepile



PHOTOGRAPH #53
cont. Signs Around Wastepile

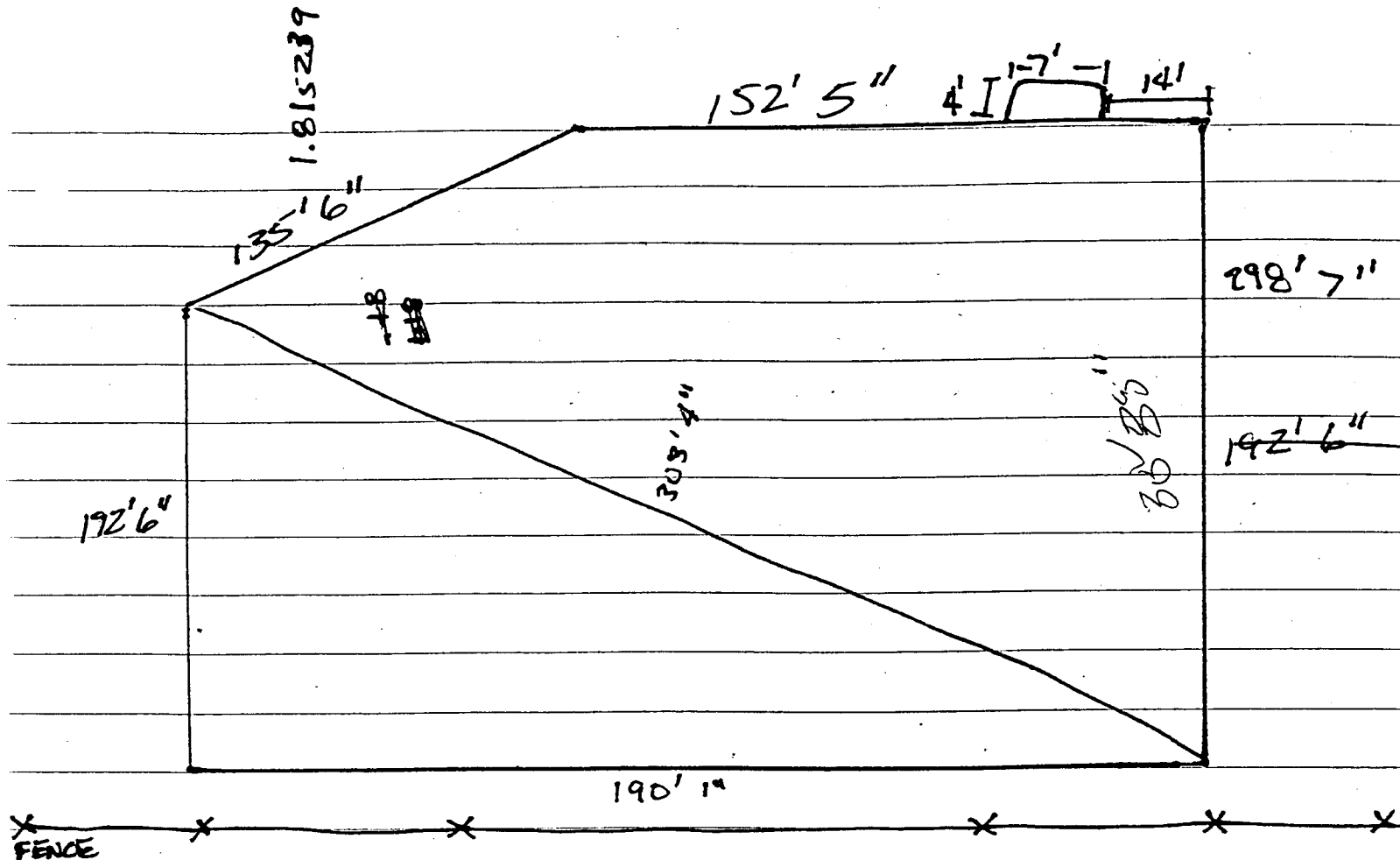


PHOTOGRAPH #54
cont. Signs Around Wastepile

APPENDICES

APPENDIX A

Field Notes of Excavated Area



FOOTPRINT of EXCAVATION

100111638291

0.18755232888
0.9377616444
0.05358637968

.7607
36' 5/5
3.0429

9298
44

512
59

1.606

1.6234

1.4052

5283

57' 6"

161'

34021

2.6213

1241

5.7602
5.0367

67' 6"
142.6

52

291

7097

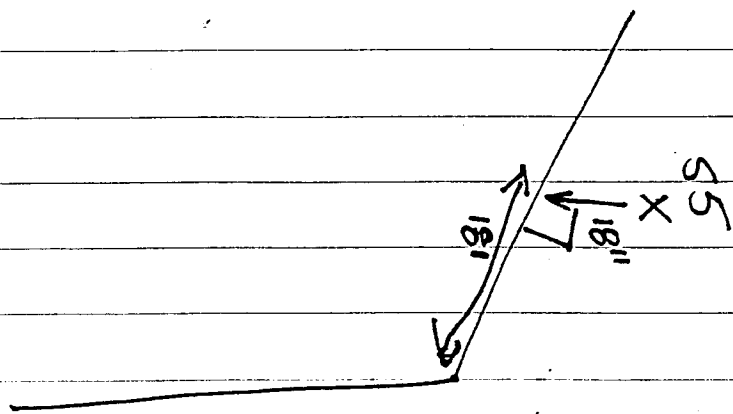
18'

51
127'

51
111'

371
7819

71
1.6277



APPENDIX B

Analytical Results - 1 Mar 95 Samples

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

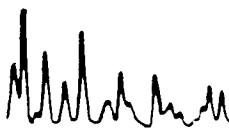
Date Sampled: 03/01/95
Date Received: 03/01/95
Date Extracted: P/T
Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8240A
Page 1 of 5

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All concentrations are reported in $\mu\text{g/kg}$ (ppb).

Sample Number: S1

Analyte	Reportable		Analyte	Reportable	
	Conc	Limit		Conc	Limit
Acetone	ND	25	1,1-Dichloroethene	ND	5
Benzene	ND	5	Trans-1,2-Dichloroethene	ND	5
Bromodichloromethane	ND	5	1,2-Dichloropropane	ND	5
Bromoform	ND	5	Cis-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Trans-1,3-Dichloropropene	ND	5
2-Butanone	ND	25	Ethylbenzene	ND	5
Carbon Disulfide	ND	25	2-Hexanone	ND	25
Carbon Tetrachloride	ND	5	Methylene Chloride	ND	10
Chlorobenzene	ND	5	4-Methyl-2-Pentanone	ND	25
Chloroethane	ND	5	Styrene	ND	25
2-Chloroethyl Vinyl Ether	ND	5	1,1,2,2-Tetrachloroethane	ND	5
Chloroform	ND	5	Tetrachloroethene	ND	5
Chloromethane	ND	10	Toluene	ND	5
1,3-Dichlorobenzene	ND	5	1,1,1-Trichloroethane	ND	5
1,4-Dichlorobenzene	ND	5	1,1,2-Trichloroethane	ND	5
1,2-Dichlorobenzene	ND	5	Trichloroethene	ND	5
Dibromochloromethane	ND	5	Trichlorofluoromethane	ND	10
Dichlorodifluoromethane	ND	10	Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	5	Vinyl Chloride	ND	10
1,2-Dichloroethane	ND	5	Total Xylenes	ND	10



ANALYTICAL REPORT

Chemical Waste Management
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Date Sampled: 03/01/95
Date Received: 03/01/95
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Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8240A
Page 2 of 5

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All concentrations are reported in µg/kg (ppb).

Sample Number: S2

Analyte	Conc	Reportable Limit	Analyte	Conc	Reportable Limit
Acetone	ND	25	1,1-Dichloroethene	ND	5
Benzene	ND	5	Trans-1,2-Dichloroethene	ND	5
Bromodichloromethane	ND	5	1,2-Dichloropropane	ND	5
Bromoform	ND	5	Cis-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Trans-1,3-Dichloropropene	ND	5
2-Butanone	ND	25	Ethylbenzene	ND	5
Carbon Disulfide	ND	25	2-Hexanone	ND	25
Carbon Tetrachloride	ND	5	Methylene Chloride	ND	10
Chlorobenzene	ND	5	4-Methyl-2-Pentanone	ND	25
Chloroethane	ND	5	Styrene	ND	25
2-Chloroethyl Vinyl Ether	ND	5	1,1,2,2-Tetrachloroethane	ND	5
Chloroform	ND	5	Tetrachloroethene	ND	5
Chloromethane	ND	10	Toluene	ND	5
1,3-Dichlorobenzene	ND	5	1,1,1-Trichloroethane	ND	5
1,4-Dichlorobenzene	ND	5	1,1,2-Trichloroethane	ND	5
1,2-Dichlorobenzene	ND	5	Trichloroethene	ND	5
Dibromochloromethane	ND	5	Trichlorofluoromethane	ND	10
Dichlorodifluoromethane	ND	10	Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	5	Vinyl Chloride	ND	10
1,2-Dichloroethane	ND	5	Total Xylenes	ND	10

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
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Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8240A
Page 3 of 5

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All concentrations are reported in µg/kg (ppb).

Sample Number: S3

Analyte	Conc	Reportable Limit	Analyte	Conc	Reportable Limit
Acetone	ND	25	1,1-Dichloroethene	ND	5
Benzene	ND	5	Trans-1,2-Dichloroethene	ND	5
Bromodichloromethane	ND	5	1,2-Dichloropropane	ND	5
Bromoform	ND	5	Cis-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Trans-1,3-Dichloropropene	ND	5
2-Butanone	ND	25	Ethylbenzene	ND	5
Carbon Disulfide	ND	25	2-Hexanone	ND	25
Carbon Tetrachloride	ND	5	Methylene Chloride	ND	10
Chlorobenzene	ND	5	4-Methyl-2-Pentanone	ND	25
Chloroethane	ND	5	Styrene	ND	25
2-Chloroethyl Vinyl Ether	ND	5	1,1,2,2-Tetrachloroethane	ND	5
Chloroform	ND	5	Tetrachloroethene	ND	5
Chloromethane	ND	10	Toluene	ND	5
1,3-Dichlorobenzene	ND	5	1,1,1-Trichloroethane	ND	5
1,4-Dichlorobenzene	ND	5	1,1,2-Trichloroethane	ND	5
1,2-Dichlorobenzene	ND	5	Trichloroethene	ND	5
Dibromochloromethane	ND	5	Trichlorofluoromethane	ND	10
Dichlorodifluoromethane	ND	10	Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	5	Vinyl Chloride	ND	10
1,2-Dichloroethane	ND	5	Total Xylenes	ND	10

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Extracted: P/T
Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8240A
Page 4 of 5

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All concentrations are reported in µg/kg (ppb).

Sample Number: S4

<u>Analyte</u>	<u>Conc</u>	<u>Reportable Limit</u>	<u>Analyte</u>	<u>Conc</u>	<u>Reportable Limit</u>
Acetone	ND	25	1,1-Dichloroethene	ND	5
Benzene	ND	5	Trans-1,2-Dichloroethene	ND	5
Bromodichloromethane	ND	5	1,2-Dichloropropane	ND	5
Bromoform	ND	5	Cis-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Trans-1,3-Dichloropropene	ND	5
2-Butanone	ND	25	Ethylbenzene	ND	5
Carbon Disulfide	ND	25	2-Hexanone	ND	25
Carbon Tetrachloride	ND	5	Methylene Chloride	ND	10
Chlorobenzene	ND	5	4-Methyl-2-Pentanone	ND	25
Chloroethane	ND	5	Styrene	ND	25
2-Chloroethyl Vinyl Ether	ND	5	1,1,2,2-Tetrachloroethane	ND	5
Chloroform	ND	5	Tetrachloroethene	ND	5
Chloromethane	ND	10	Toluene	ND	5
1,3-Dichlorobenzene	ND	5	1,1,1-Trichloroethane	ND	5
1,4-Dichlorobenzene	ND	5	1,1,2-Trichloroethane	ND	5
1,2-Dichlorobenzene	ND	5	Trichloroethene	ND	5
Dibromochloromethane	ND	5	Trichlorofluoromethane	ND	10
Dichlorodifluoromethane	ND	10	Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	5	Vinyl Chloride	ND	10
1,2-Dichloroethane	ND	5	Total Xylenes	ND	10



ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Extracted: P/T
Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8240A
Page 5 of 5

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All concentrations are reported in µg/kg (ppb).

Sample Number: Method Blank

Analyte	Conc	Reportable Limit	Analyte	Conc	Reportable Limit
Acetone	ND	25	1,1-Dichloroethene	ND	5
Benzene	ND	5	Trans-1,2-Dichloroethene	ND	5
Bromodichloromethane	ND	5	1,2-Dichloropropane	ND	5
Bromoform	ND	5	Cis-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Trans-1,3-Dichloropropene	ND	5
2-Butanone	ND	25	Ethylbenzene	ND	5
Carbon Disulfide	ND	25	2-Hexanone	ND	25
Carbon Tetrachloride	ND	5	Methylene Chloride	ND	10
Chlorobenzene	ND	5	4-Methyl-2-Pentanone	ND	25
Chloroethane	ND	5	Styrene	ND	25
2-Chloroethyl Vinyl Ether	ND	5	1,1,2,2-Tetrachloroethane	ND	5
Chloroform	ND	5	Tetrachloroethene	ND	5
Chloromethane	ND	10	Toluene	ND	5
1,3-Dichlorobenzene	ND	5	1,1,1-Trichloroethane	ND	5
1,4-Dichlorobenzene	ND	5	1,1,2-Trichloroethane	ND	5
1,2-Dichlorobenzene	ND	5	Trichloroethene	ND	5
Dibromochloromethane	ND	5	Trichlorofluoromethane	ND	10
Dichlorodifluoromethane	ND	10	Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	5	Vinyl Chloride	ND	10
1,2-Dichloroethane	ND	5	Total Xylenes	ND	10

Reviewed and Approved


William H. Christensen
Deliverables Manager

on 03/06/1995

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Extracted: 03/02/95
Date Analyzed: 03/02/95
Work Order No.: 95-03-041
Method: EPA 8015M
Page 1 of 1

Attn: Cecil Bedford
RE: China Lake N.A.W.S

All total petroleum hydrocarbon concentrations are reported in mg/kg (ppm) using a 1:1 gasoline:diesel fuel mixture as a standard.

<u>Sample Number</u>	<u>Concentration</u>	<u>Reportable Limit</u>
S1	ND	10
S2	ND	10
S3	ND	10
S4	ND	10
Method Blank	ND	10

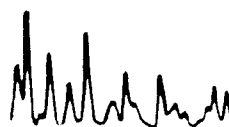
Reviewed and Approved


William H. Christensen
Deliverables Manager

on 03/06/1995

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S5

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	54.5	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	4.0	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	10.2	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	ND	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	2.3	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	6.3	1.5
Zinc	EPA 6010A	14.8	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

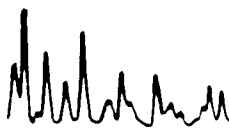
Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S6

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	54.0	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.9	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	12.9	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	0.77	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	3.0	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	6.9	1.5
Zinc	EPA 6010A	15.4	1.5



Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

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Sample Number: S7

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	66.3	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	4.7	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	16.6	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	1.22	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	4.7	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	8.9	1.5
Zinc	EPA 6010A	19.3	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S8

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	54.7	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.3	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	10.5	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	0.25	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	2.4	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	6.3	1.5
Zinc	EPA 6010A	14.1	1.5



ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

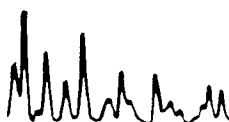
Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S9

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	61.5	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	5.0	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	18.2	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	0.56	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	5.0	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	9.0	1.5
Zinc	EPA 6010A	24.8	1.5



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Chemical Waste Management
10960 Boatman Way
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Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S10 (1 of 2)

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	65.3	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	7.4	1.5
Cobalt	EPA 6010A	2.1	1.5
Copper	EPA 6010A	18.3	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	ND	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	5.1	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	10.9	1.5
Zinc	EPA 6010A	26.0	1.5



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Chemical Waste Management
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Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S10 (2 of 2)

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	64.7	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	6.0	1.5
Cobalt	EPA 6010A	1.9	1.5
Copper	EPA 6010A	19.2	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	ND	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	3.1	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	11.6	1.5
Zinc	EPA 6010A	21.2	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford

RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S11

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	46.2	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.6	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	10.7	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	1.00	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	9.0	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	7.7	1.5
Zinc	EPA 6010A	13.0	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

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All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S12

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	63.5	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	4.7	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	19.6	2.5
Lead	EPA 6010A	9.8	6.0
Mercury	EPA 7471	0.32	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	2.4	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	8.0	1.5
Zinc	EPA 6010A	23.5	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

Page 10 of 13

All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S13

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	57.3	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.4	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	10.9	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	0.27	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	ND	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	6.8	1.5
Zinc	EPA 6010A	15.6	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford
RE: China Lake N.A.W.S

Page 11 of 13

All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S14

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	58.9	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.6	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	13.0	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	0.32	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	2.1	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	7.5	1.5
Zinc	EPA 6010A	16.5	1.5

ANALYTICAL REPORT

Chemical Waste Management
 10960 Boatman Way
 Stanton, CA 90680

Date Sampled: 03/01/95
 Date Received: 03/01/95
 Date Digested: 03/02/95
 Date Analyzed: 03/02-06/95
 Work Order No.: 95-03-041

Attn: Cecil Bedford

RE: China Lake N.A.W.S

Page 12 of 13

All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: S15

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	64.2	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	3.8	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	12.9	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	ND	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	2.4	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	7.7	1.5
Zinc	EPA 6010A	16.6	1.5

ANALYTICAL REPORT

Chemical Waste Management
10960 Boatman Way
Stanton, CA 90680

Date Sampled: 03/01/95
Date Received: 03/01/95
Date Digested: 03/02/95
Date Analyzed: 03/02-06/95
Work Order No.: 95-03-041

Attn: Cecil Bedford

RE: China Lake N.A.W.S

Page 13 of 13

All concentrations are reported in mg/kg (ppm). Analyses for Title 22 metals were conducted on a total digestion.

Sample Number: Method Blank

<u>Analyte</u>	<u>Method</u>	<u>Concentration</u>	<u>Reportable Limit</u>
Antimony	EPA 6010A	ND	5.0
Arsenic	EPA 6010A	ND	5.0
Barium	EPA 6010A	ND	1.0
Beryllium	EPA 6010A	ND	0.5
Cadmium	EPA 6010A	ND	0.5
Chromium(Total)	EPA 6010A	ND	1.5
Cobalt	EPA 6010A	ND	1.5
Copper	EPA 6010A	ND	2.5
Lead	EPA 6010A	ND	6.0
Mercury	EPA 7471	ND	0.25
Molybdenum	EPA 6010A	ND	2.5
Nickel	EPA 6010A	ND	2.0
Selenium	EPA 6010A	ND	5.0
Silver	EPA 6010A	ND	1.0
Thallium	EPA 6010A	ND	7.5
Vanadium	EPA 6010A	ND	1.5
Zinc	EPA 6010A	ND	1.5

Reviewed and Approved


William H. Christensen
Deliverables Manager

on 03/06/1995

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

QUALITY ASSURANCE SUMMARY

Method EPA 8240A

Chemical Waste Management
Page 1 of 1

Work Order No.:
Date Analyzed:

95-03-041
03/02/95

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: S4

Analyte	MS%REC	MSD%REC	Control Limits	%RPD	Control Limits
Benzene	97	96	37 - 151	1	0 - 25
Chlorobenzene	104	105	37 - 160	1	0 - 25
Toluene	96	102	47 - 150	6	0 - 25
1,1-Dichloroethene	96	96	59 - 155	0	0 - 25
Trichloroethene	100	114	71 - 157	13	0 - 25

Surrogate Recoveries (in %)

Sample Number	S1	S2	S3
S1	95	103	96
S2	96	100	97
S3	92	102	95
S4	92	101	94

	Water %REC Acceptable Limits	Soil %REC Acceptable Limits
S1 > 1,2-Dichloroethane-d4	76 - 114	70 - 121
S2 > Toluene-d8	88 - 110	81 - 117
S3 > 1,4-Bromofluorobenzene	86 - 115	74 - 121

Reviewed and approved: William H. Christensen on 03/06/1995.

William H. Christensen
Deliverables Manager

QUALITY ASSURANCE SUMMARY

Method EPA 8015M-G & D

Chemical Waste Management
Page 1 of 1

Work Order No.: 95-03-041
Date Analyzed: 02/28/95

Blank Spike/Blank Spike Duplicate

Sample Spiked: Method Blank

Analyte	<u>BS%REC</u>	<u>BSD%REC</u>	Control <u>Limits</u>	<u>%RPD</u>	Control <u>Limits</u>
Total Petroleum Hydrocarbons	105	107	55 - 135	2	0 - 30

Reviewed and approved: William H. Christensen on 02/06 /1995.

William H. Christensen
Deliverables Manager





CLIENT NAME CHINA LAKE NAWS		CLIENT JOB NUMBER 0451		PRESERVATIVES		ANALYSIS REQUESTED		FIELD CONDITIONS:	
ADDRESS		DESTINATION LABORATORY		DATE / TIME		DATE / TIME		COMPOSITE:	
PROJECT NAME CHINA LAKE NAWS		PROJECT MANAGER CECI N BEDFORD		PROJECT MANAGER CECI N BEDFORD		PROJECT MANAGER CECI N BEDFORD		SPECIAL INSTRUCTIONS:	
PHONE # (714) 826-6320		PHONE # (714) 826-6320		PHONE # (714) 826-6320		PHONE # (714) 826-6320		PO: SD 1220	
SAMPLED BY CECI N BEDFORD / DAVE MANZANARES		SAMPLED BY CECI N BEDFORD / DAVE MANZANARES		SAMPLED BY CECI N BEDFORD / DAVE MANZANARES		SAMPLED BY CECI N BEDFORD / DAVE MANZANARES		TURN AROUND TIME	
JOB DESCRIPTION EXCAVATION OF CONTAM. SOIL IN FOOTING		JOB DESCRIPTION EXCAVATION OF CONTAM. SOIL IN FOOTING		JOB DESCRIPTION EXCAVATION OF CONTAM. SOIL IN FOOTING		JOB DESCRIPTION EXCAVATION OF CONTAM. SOIL IN FOOTING		NOTE / FIELD READINGS	
SITE LOCATION SUPERIOR VALLEY PV ARRAY		SITE LOCATION SUPERIOR VALLEY PV ARRAY		SITE LOCATION SUPERIOR VALLEY PV ARRAY		SITE LOCATION SUPERIOR VALLEY PV ARRAY			
DATE	TIME	IDENTIFICATION	SAMPLE METHOD	MATRIX	CONTAINER NO.	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME
3/1/95	12:50	S1	CORE		1 4028	3	X	X	
3/1/95	12:30	S2	CORE		2 4028	3	X	X	
3/1/95	13:10	S3	CORE		3 4028	3	X	X	
3/1/95	10:10	S4	CORE		4 4028	3	X	X	
3/1/95	12:20	S5	GRAB		5 4028	3	X	X	
3/1/95	12:15	S6	GRAB		6 4028	3	X	X	
3/1/95	13:05	S7	GRAB		7 4028	3	X	X	
3/1/95	15:10	S8	GRAB		8 4028	3	X	X	
3/1/95	14:40	S9	GRAB		9 4028	3	X	X	
3/1/95	15:25	S10	GRAB		10 4028	3	X	X	
3/1/95	12:40	S11	GRAB		11 4028	3	X	X	
3/1/95	15:40	S12	GRAB		12 4028	3	X	X	
3/1/95	09:45	S13	GRAB		13 4028	3	X	X	
SUSPECTED CONSTITUENTS LEAD, VBC, CHROME, ARSENIC, METALS		SUSPECTED CONSTITUENTS LEAD, VBC, CHROME, ARSENIC, METALS		SUSPECTED CONSTITUENTS LEAD, VBC, CHROME, ARSENIC, METALS		SUSPECTED CONSTITUENTS LEAD, VBC, CHROME, ARSENIC, METALS		SUSPECTED CONSTITUENTS LEAD, VBC, CHROME, ARSENIC, METALS	
PRINT NAME / COMPANY JOHN P. CARMENY		PRINT NAME / COMPANY JOHN P. CARMENY		PRINT NAME / COMPANY JOHN P. CARMENY		PRINT NAME / COMPANY JOHN P. CARMENY		PRINT NAME / COMPANY JOHN P. CARMENY	
DATE / TIME 3-1-95 1945		DATE / TIME 3-1-95 1945		DATE / TIME 3-1-95 1945		DATE / TIME 3-1-95 1945		DATE / TIME 3-1-95 1945	
RECD AT LAB BY:		RECD AT LAB BY:		RECD AT LAB BY:		RECD AT LAB BY:		RECD AT LAB BY:	
SHIPPED VIA		SHIPPED VIA		SHIPPED VIA		SHIPPED VIA		SHIPPED VIA	
FED X		FED X		FED X		FED X		FED X	
UPS		UPS		UPS		UPS		UPS	
OTHER CUM GROUND		OTHER CUM GROUND		OTHER CUM GROUND		OTHER CUM GROUND		OTHER CUM GROUND	
AIR BILL #		AIR BILL #		AIR BILL #		AIR BILL #		AIR BILL #	
CONDITIONS / COMMENTS:		CONDITIONS / COMMENTS:		CONDITIONS / COMMENTS:		CONDITIONS / COMMENTS:		CONDITIONS / COMMENTS:	
PRINT NAME / COMPANY Keith Boyal cal Science		PRINT NAME / COMPANY Keith Boyal cal Science		PRINT NAME / COMPANY Keith Boyal cal Science		PRINT NAME / COMPANY Keith Boyal cal Science		PRINT NAME / COMPANY Keith Boyal cal Science	



CLIENT NAME
China Lake NAW's

ADDRESS
CHINA LAKE NAW'S

PROJECT NAME
CHINA LAKE NAW'S

PROJECT MANAGER
WILL N. BEDFORD

PHONE
714 826-6320

SAMPLED BY
WILL N. BEDFORD / DMC MANZANAREZ

JOB DESCRIPTION
OTHER

CLIENT JOB NUMBER
0451

DESTINATION LABORATORY
☐ CLS
3249 FITZGERALD RD.
RANCHO CORDOVA, CA
95742

☒ OTHER
CAL-SCIENCE

SAFE LOCATION
Superior Valley TV Array

DATE	TIME	IDENTIFICATION	SAMPLE	METHOD	MATRIX	CONTAINER NO.
3/1/95	0950	S14		GRAB		1
3/1/95	0955	S15		GRAB		1

PRESERVATIVES

Rush Analytical QAC22

3

3

ANALYSIS REQUESTED

FIELD CONDITIONS:

OVERCAST, WINDY, 60°F

COMPOSITE:

SPECIAL INSTRUCTIONS:

PD: SD 1220

TURN AROUND TIME

NOTE / FIELD READINGS

24 HOURS

48 HOURS

1 WEEK

2 WEEKS

X

X

SUSPECTED CONSTITUENTS

LEAD, CHROMIUM, ASSOCIATED METALS

PRINT NAME / COMPANY

DATE / TIME

REC'D BY (SIGN)

PRESERVATIVES:

(1) HCL

(2) HNO3

(3) - COLD

(4)

PRINT NAME / COMPANY

Joe P. Cameroff

3-195 1945

Robert B. Boyer

Keith Boyer, Cal Science

REC'D AT LAB BY:

DATE / TIME:

CONDITIONS / COMMENTS:

SHIPPED VIA

☐ FED X☐ UPS☒ OTHERCUM GRANT

AIR BILL #

APPENDIX C

Sample Descriptions - 7 Mar 95 Samples

DESCRIPTIONS OF SOIL SAMPLES COLLECTED 7 MAR 95

(1) Burn Area

SV-5-All Surface

SV-12-Hg Depth

Both samples collected at S3/S7 location (1 Mar 95 samples) - See Figure 3

(2) Burn Area

SV-3-All Surface (Field Duplicate to sample SV-4-All)

SV-4-All Surface (Field Duplicate to sample SV-3-All)

SV-11-Hg Depth

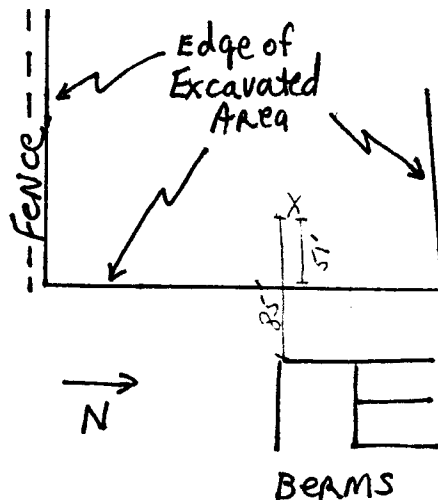
Both samples collected at S1/S11 location (1 Mar 95 samples) - See Figure 3

(3) Burn Area

SV-6-All Depth

SV-13-Hg Surface

Also see Figure 3

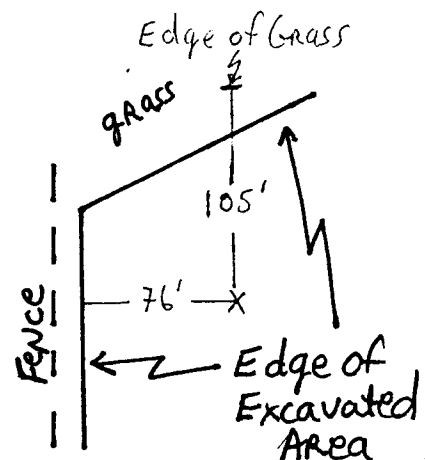


(4) Burn Area

SV-7-All Surface

SV-14-Hg Depth

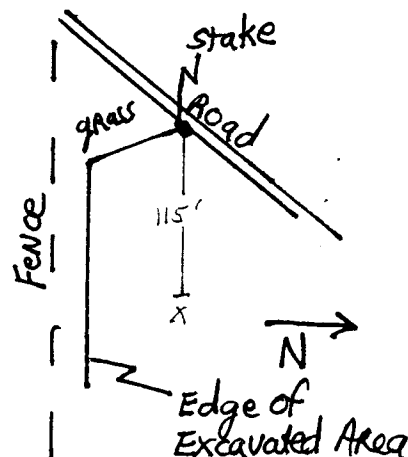
Also see Figure 3



(5) Burn Area

SV-15-Hg Surface

Also see Figure 3



(6) Undisturbed Desert

SV-10-Hg Surface

Northwest corner of PV array facility (orange marker) - Also see Figure 4

(7) Undisturbed Desert

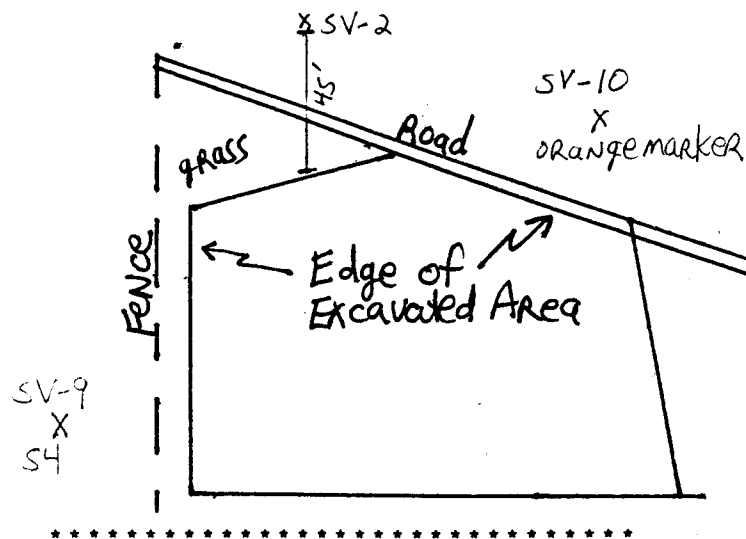
SV-2-All Surface

Also see Figure 4

(8) Undisturbed Desert

SV-9-Hg Surface

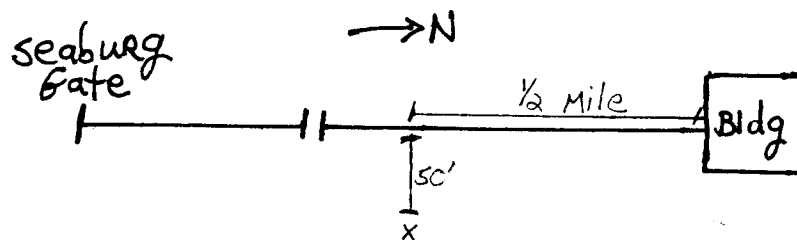
Sample collected at S4 location (1 Mar 95 samples) - See Figure 3



(9) Background

SV-1-All Surface

SV-8-Hg Depth



APPENDIX D

Analytical Results - 7 Mar 95 Samples



DIVERSIFIED ANALYTICAL SERVICES, INC.

State Certified — Environmental Testing Laboratory

420 S. Hindry Avenue, Suite A, Inglewood, CA 90301 • (310) 671-5346 • Fax: (310) 645-6819 • (800) 862-9310

LABORATORY REPORT

L. #: 1
CLIENT: CHINA LAKE NAVAL AIR WEAPONS
DATE SAMPLED: 03/07/95
DATE RECEIVED: 03/08/95
REFERENCE: SUP VAL PV ARRAY SOIL SAMPLES AFTER EXCAVATION
NOTE: SEE ATTACHED DOCUMENTS FOR FURTHER INFORMATION

DAS PROJECT #: 9503000013
CLIENT PROJECT ID: N62474-92-D2122
DATE PREPARED: 03/08/95
DATE ANALYZED: 03/08/95

ANALYTICAL RESULTS

TEST NAME: EPA METHOD 7471 MERCURY (COLD VAPOR)

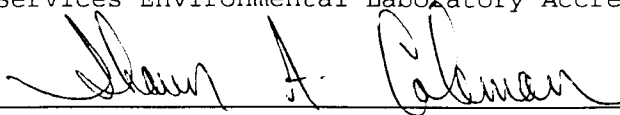
LAB ID #	CLIENT ID #	SAMPLE TYPE	CONSTITUENT	RESULT	UNITS	DL
7804	SV-8	SOIL	MERCURY	ND	mg/kg	0.01
7805	SV-9	SOIL	MERCURY	ND	mg/kg	0.01
7806	SV-10	SOIL	MERCURY	ND	mg/kg	0.01
7807	SV-11	SOIL	MERCURY	ND	mg/kg	0.01
7808	SV-12	SOIL	MERCURY	ND	mg/kg	0.01
7809	SV-13	SOIL	MERCURY	ND	mg/kg	0.01
7810	SV-14	SOIL	MERCURY	ND	mg/kg	0.01
7811	SV-15	SOIL	MERCURY	ND	mg/kg	0.01

DL = Detection Limit

ND = Not Detected

Diversified Analytical Services currently maintains Certificate Number 1201 under the California Department of Health Services Environmental Laboratory Accreditation Program.

Respectfully Submitted:


Shawn A. Coleman, Laboratory Director/Analytical Chemist

* Listed as one of the TOP 100 Women Owned Businesses in Los Angeles County *



DIVERSIFIED ANALYTICAL SERVICES, INC.

State Certified — Environmental Testing Laboratory

420 S. Hindry Avenue, Suite A, Inglewood, CA 90301 • (310) 671-5346 • Fax: (310) 645-6819 • (800) 862-9310

LABORATORY REPORT

P. #: 1 DATE REPORTED: 03/08/95 DAS PROJECT #: 9503000013
CLIENT: CHINA LAKE NAVAL AIR WEAPONS CLIENT PROJECT ID: N62474-92-D2122
DATE SAMPLED: 03/07/95 DATE PREPARED: 03/08/95
DATE RECEIVED: 03/08/95 DATE ANALYZED: 03/08/95
REFERENCE: SUP VAL PV ARRAY SOIL SAMPLES AFTER EXCAVATION
NOTE: SEE ATTACHED DOCUMENTS FOR FURTHER INFORMATION

ANALYTICAL RESULTS

TEST NAME:	EPA METHOD 6010 17 HEAVY METALS				
LAB ID NUMBER	7797 BG	7798 Adj	7799	7800	7801
CLIENT SAMPLE ID	SV-1	SV-2 surface	SV-3	SV-4	SV-5
SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
CONSTITUENT					
ANTIMONY	<10.0	<10.0	<10.0	<10.0	<10.0
ARSENIC	<5.0	<5.0	<5.0	<5.0	<5.0
BARIUM	20.3	21.3	19.1	19.9	33.5
BERYLLIUM	<1.0	<1.0	<1.0	<1.0	<1.0
CADMIUM	1.4	1.2	1.7	1.5	1.6
CHROMIUM (TOTAL)	3.0	2.2	7.0	2.9	3.1
COBALT	<1.0	<1.0	2.7	2.7	2.8
COPPER	12.4	12.1	15.4	13.5	14.9
LEAD	<5.0	5.0	<5.0	<5.0	225.0
MERCURY	<2.0	<2.0	<2.0	<2.0	<2.0
MOLYBDENUM	<10.0	<10.0	<10.0	<10.0	<10.0
FL	2.7	2.4	2.9	2.3	3.1
SELENIUM	<5.0	<5.0	<5.0	<5.0	<5.0
SILVER	<1.0	<1.0	<1.0	<1.0	<1.0
THALLIUM	<10.0	<10.0	<10.0	<10.0	<10.0
VANADIUM	7.6	6.9	10.4	9.2	8.2
ZINC	23.1	21.5	24.5	21.9	25.0

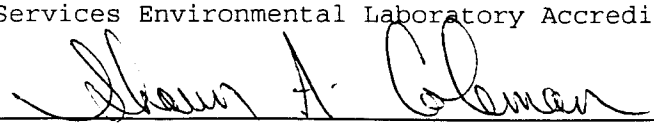
B.A.
Field Split
surface

B.A.
surface

< = Less Than; the number following this sign is the detection limit for that specific constituent.

Diversified Analytical Services currently maintains Certificate Number 1201 under the California Department of Health Services Environmental Laboratory Accreditation Program.

Respectfully Submitted:


Shawn A. Coleman, Laboratory Director/Analytical Chemist

* Listed as one of the TOP 100 Women Owned Businesses in Los Angeles County *



DIVERSIFIED ANALYTICAL SERVICES, INC.

State Certified — Environmental Testing Laboratory

420 S. Hindry Avenue, Suite A, Inglewood, CA 90301 • (310) 671-5346 • Fax: (310) 645-6819 • (800) 862-9310

LABORATORY REPORT

P. # : 1 DATE REPORTED: 03/08/95 DAS PROJECT #: 9503000013
CLIENT: CHINA LAKE NAVAL AIR WEAPONS CLIENT PROJECT ID: N62474-92-D2122
DATE SAMPLED: 03/07/95 DATE PREPARED: 03/08/95
DATE RECEIVED: 03/08/95 DATE ANALYZED: 03/08/95
REFERENCE: SUP VAL PV ARRAY SOIL SAMPLES AFTER EXCAVATION
NOTE: SEE ATTACHED DOCUMENTS FOR FURTHER INFORMATION

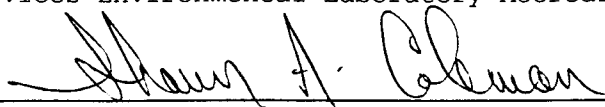
ANALYTICAL RESULTS

TEST NAME:	EPA METHOD 6010 17 HEAVY METALS	
LAB ID NUMBER	7802 <i>B.A.</i>	7803 <i>B.A.</i>
<u>CLIENT SAMPLE ID</u>	<u>SV-6</u> <i>Depth</i>	<u>SV-7</u> <i>Surface</i>
SAMPLE TYPE	SOIL	SOIL
UNITS	mg/kg	mg/kg
CONSTITUENT		
ANTIMONY	<10.0	<10.0
ARSENIC	<5.0	<5.0
BARIUM	30.0	21.3
BERYLLIUM	<1.0	<1.0
CADMIUM	1.3	<1.0
CHROMIUM (TOTAL)	2.4	1.4
COBALT	2.4	1.9
COPPER	13.5	9.9
LEAD	<5.0	<5.0
MERCURY	<2.0	<2.0
MOLYBDENUM	<10.0	<10.0
NICKEL	2.1	1.4
SELENIUM	<5.0	<5.0
SILVER	<1.0	<1.0
THALLIUM	<10.0	<10.0
VANADIUM	7.8	4.5
ZINC	19.1	14.6

< = Less Than; the number following this sign is the detection limit for that specific constituent.

Diversified Analytical Services currently maintains Certificate Number 1201 under the California State Department of Health Services Environmental Laboratory Accreditation Program.

Respectfully Submitted:


Shawn A. Coleman, Laboratory Director/Analytical Chemist

* Listed as one of the TOP 100 Women Owned Businesses in Los Angeles County *

Diversified Analytical Services, Inc.

QA/QC Summary Report

QC Report Number: Y 34767.42234

Project Number(s), Sample Numbers: 95/03-000013, 7804-7811

Method Number: 7470, 7471

Date Analyzed: 03/08/95

Result Units: ug/Kg

Sample Spiked: 7811

Method Analyte	Method Blank	Sample Concentration	MS Readings	MSD Readings	Calibration Check Standard				Matrix Spike				Matrix Spike Duplicate				Accept Limits
					Expected	Actual	Recovered	% Accept Limits	Expected	Actual	Recovered	% Accept Limits	Expected	Actual	Recovered	% Accept Limits	
Mercury	ND	0.0	4.1	4.2	5.0	4.9	98	80-120%	5.0	4.1	82	50-150%	5.0	4.2	84	2.4	0-25

Comments: QC data is acceptable.

Reviewed By: E. H. [Signature], Analytical Chemist

Date: 3-9-95

Diversified Analytical Services, Inc.

QA/QC Summary Report

QC Report Number: M 34767.45582

Project Number(s): 9502-31, 7762-7763; 9502-32, 7764-7766; 9503-01, 7768; 9503-04, 7774; 9503-05, 7775-7779; 9503-06, 7781-7785; 9503-13, 7797-7803.

Method Number: 6010/200.7

Date Analyzed: 02-28/95 Result Units: mg/Kg

Sample Spiked: 7763

Method Analyte	Method Blank	Sample Concentration	MS Readings	MSD Readings	Calibration Check Standard				Matrix Spike				Matrix Spike Duplicate				Accept Limits
					Expected	Actual	% Recovered	Accept Limits	Expected	Actual	% Recovered	Accept Limits	Expected	Actual	% Recovered	Accept Limits	
Arsenic	ND	0.00	2.19	2.18	2.00	2.13	107	80-120%	2.00	2.19	110	70-130%	2.00	2.18	109	0.5	0-25
Chromium	ND	0.00	2.24	2.14	2.00	2.33	117	80-120%	2.00	2.24	112	70-130%	2.00	2.14	107	4.6	0-25
Copper	ND	0.10	2.11	2.07	2.00	2.11	106	80-120%	2.00	2.01	101	70-130%	2.00	1.97	99	2.0	0-25
Lead	ND	0.00	2.36	2.29	2.00	2.19	110	80-120%	2.00	2.36	118	70-130%	2.00	2.29	115	3.0	0-25
Zinc	ND	1.46	3.48	3.56	2.00	1.96	98	80-120%	2.00	2.02	101	70-130%	2.00	2.10	105	3.9	0-25

Comments: QC data is acceptable.

Reviewed By: 6917, Analytical Chemist

Date: 3-9-95



L. VERSIFIED ANALYTICAL SERVICES, INC.

State Certified — Environmental Laboratory

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CHAIN OF CUSTODY RECORD

Date: 3/6/95 Page 1 of 2

Client: NAWS China Lake

Billing Address: _____

Project Name/Number

SupVal - PV Array - After Excavation

Project Manager

Lawrie Zellmer

Sampler Signature

L. Zellmer

Phone#:

619-927-1486

FAX#:

619-939-2980

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. OF CONTAINERS	TESTS REQUIRED
				LIQUID	AIR	SOLID		
				COMP	GRAB			
SV-1-A11		3/7/95	1000			X	1	CCR Metals (Total)
SV-2-A11		3/7/95	1000			X	1	"
SV-3-A11		3/7/95	1000			X	1	"
SV-4-A11		3/7/95	1000			X	1	"
SV-5-A11		3/7/95	1000			X	1	"
SV-6-A11		3/7/95	1000			X	1	"
SV-7-A11		3/7/95	1000			X	1	"
SV-8-Hg		3/7/95	1000			X	1	Mercury (Total)
SV-9-Hg		3/7/95	1000			X	1	"
Relinquished by:	<u>Lawrie Zellmer</u>	3/7/95	1200	Received by:			Date	Time
Relinquished by:				Received by:				
Relinquished by:				Received by:				
Relinquished by:				Received for Lab by:				
Method of Shipment:								

Special Instructions:

Detection Limit for Hg - .25 ppm

Turnaround: [] Normal [] 72 Hours [] 48 Hours ☒ 24 Hours
Surcharges: None +25% +50% +100%

QA/QC Report Required? (If yes, a fee will apply)

Samples Rec'd Cold?

Samples Picked Up?

95103-000013



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CHAIN OF CUSTODY RECORD

Date: 3/6/95 Page 2 of 2

client: N. Aus Ching Lake
Billing Address: _____
Project Name/Number: Sup Val - PV Array - After Excavation
Project Manager: Laurie Zellmer
Sampler Signature: L. Zellmer
Phone#: 619-927-1486
FAX#: _____
619-939-2980

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO. OF CONTAINERS	TESTS REQUIRED
				LIQUID	AIR	SOLID		
SV-10-Hg		3/7/95	1000	COMP	GRAB			
SV-11-Hg		3/7/95	1000			X	1	Mercury (Total)
SV-12-Hg		3/7/95	1000			X	1	"
SV-13-Hg		3/7/95	1000			X	1	"
SV-14-Hg		3/7/95	1000			X	1	"
SV-15-Hg		3/7/95	1000			X	1	"
Relinquished by:	Lauren Zellmer	3/7/95	1200	Received by:				Date
Relinquished by:				Received by:				Time
Relinquished by:				Received by:				
Relinquished by:				Received by:				
Method of Shipment:				Received for Lab by:				

Special Instructions: Detection Limit for Hg - .25 PPM
Turnaround: [] Normal [] 72 Hours [] 48 Hours [] 24 Hours
Surcharges: None +25% +50% +100%
QA/QC Report Required? (If yes, a fee will apply) _____
Samples Rec'd Cold? _____
Samples Picked Up? _____

95103-000013